

Innovation, Sustainability, Development: A New

MANIFESTO



Silver Bullets, Grand Challenges and the New Philanthropy

Sally Brooks, Melissa Leach, Henry Lucas, Erik Millstone

Philanthropy



About the paper

Whether generic 'silver bullet' solutions can address complex development problems has been debated for many years. The 'grand challenge' extends the idea of the silver bullet in ways that speak to a goal-driven, global development agenda and a new generation of private philanthropists - or 'philanthro-capitalists' seeking to apply business methods to 'strategic' giving. These developments raise new Sustainability challenges, explored in this paper, drawing on examples from the health and agriculture sectors. Biofortification research funded by the Bill and Melinda Gates Foundation provides a detailed, illustrative case of how these ideas can reduce space to debate directionality and accountability. Imperatives towards rapid 'scaling up' infer homogenous populations and overlook patterns of diversity and distributional concerns; transforming complex and diverse needs into 'demand' for pre-defined technical solutions. This paper asks if the potential exists for a reinvigorated philanthropic sector to play a different role, and turn its power and resources towards learning processes that recognise diversity and use this to reshape programme design.

About the authors

Sally Brooks works on STEPS Maize Innovation project and convenes the Beyond Biosafety project in Kenya and in the Philippines. Sally's PhD thesis explored international science policy processes in biofortification. Previously she worked with development NGOs in Cambodia, Vietnam and Papua New Guinea.

Melissa Leach is director of the STEPS Centre. She is a social anthropologist specialising in environmental and science-society issues. Research interests include social and institutional dimensions of environmental and technological change and issues of knowledge, power and citizen engagement.

Henry Lucas is a statistician focusing on health management information systems and the financing of health care in rural China. He is also interested in

micro-computer economic planning models, information systems for human resource planning, and social indicators.

Erik Millstone is a Professor of Science Policy at SPRU and co-convenor of the STEPS food/agriculture domain. His research covers the causes, consequences and regulation of technological change in the food and chemical industries and the role of scientific experts, evidence and advice in public policy-making.

About the Manifesto project

In 1970 a radical document called The Sussex Manifesto helped shape modern thinking on science and technology for development. Forty years on, we live in a highly globalised, interconnected and yet privatised world. We have witnessed unprecedented advances in science and technology, the rise of Asia and ever-shifting patterns of inequality. What kind of science and technology for development Manifesto is needed for today's world? The STEPS Centre is creating a new manifesto with one of the authors of the original, Professor Geoff Oldham. Seeking to bring cutting-edge ideas and some Southern perspectives to current policy, the New Manifesto will recommend new ways of linking science and innovation to development for a more sustainable, equitable and resilient future.

For all the papers in this series see:

www.anewmanifesto.org

About the STEPS Centre

The STEPS Centre (Social, Technological and Environmental Pathways to Sustainability) is an interdisciplinary global research and policy engagement hub that unites development studies with science and technology studies. Based at the Institute of Development Studies and SPRU Science and Technology Policy Research at the University of Sussex, with partners in Africa, Asia and Latin America, we are funded by the Economic and Social Research Council.

Find out more at **www.steps-centre.org**

Silver Bullets, Grand Challenges and the New Philanthropy

Sally Brooks, Melissa Leach, Henry Lucas and Erik Millstone

Correct citation: Brooks, S., Leach, M., Lucas, H. and Millstone, E. (2009) *Silver Bullets, Grand Challenges and the New Philanthropy*, STEPS Working Paper 24, Brighton: STEPS Centre

First published in 2009

© STEPS 2009

Some rights reserved – see copyright license for details

ISBN 978 1 85864 781 9

Thanks to Elisa Arond and Harriet Le Bris for help with copy-editing.

Cover design by Barney Haward.

For further information please contact: STEPS Centre, University of Sussex, Brighton BN1 9RE

Tel: +44 (0) 1273915673

Email: steps-centre@ids.ac.uk

Web: www.steps-centre.org

STEPS Centre publications are published under a Creative Commons Attribution – Non-Commercial – No Derivative Works 3.0 UK: England & Wales Licence.
(<http://creativecommons.org/licenses/by-nc-nd/3.0/legalcode>)

Attribution: You must attribute the work in the manner specified by the author or licensor.

Non-commercial: You may not use this work for commercial purposes.

No Derivative Works: You may not alter, transfer, or build on this work.

Users are welcome to copy, distribute, display, translate or perform this work without written permission subject to the conditions set out in the Creative Commons licence. For any reuse or distribution, you must make clear to others the licence terms of this work. If you use the work, we ask that you reference the STEPS Centre website (www.steps-centre.org) and send a copy of the work or a link to its use online to the following address for our archive: STEPS Centre, University of Sussex, Brighton BN1 9RE, UK (steps-centre@ids.ac.uk)



CONTENTS

INTRODUCTION..... 4

SILVER BULLETS 5

GRAND CHALLENGES 7

THE NEW PHILANTHROPY 9

SUSTAINABILITY: DIRECTIONALITY, DISTRIBUTION AND DIVERSITY 13

REFERENCES..... 15

INTRODUCTION

The issue of whether generic 'silver bullet' solutions can address complex development problems has been an ongoing debate for the last forty years. At issue has been, firstly, whether problems such as poor health, malnutrition and food insecurity in the developing world are primarily technical or social problems; and secondly, where technical solutions are required, the relative merits of working towards a diversity of context responsive solutions or generic technologies amenable to more centralised organisation and economies of scale. The apparent simplicity and universality of the latter has enabled such approaches to weather successive critiques, for example those levelled at the Green Revolution or the Global Polio Eradication Initiative, and to continue to attract, in the view of many observers, a disproportionate share of attention and resources.

The 'grand challenge' is a more recent phenomenon, which extends the idea of the silver bullet – in particular the notion of the generic, technical solution with in-built 'scalability' – in a way that speaks to a prevailing goal-driven development agenda, as well as to a new generation of private philanthropists seeking to apply business methods to 'strategic' giving. In 1970, the Sussex Manifesto drew attention to a fundamental imbalance in the orientation and allocation of world scientific efforts in favour of the industrialised world, an imbalance that remains today. In the 2000s, the Bill and Melinda Gates Foundation (BMGF) set out to address this imbalance by issuing a series of Grand Challenges in Global Health, to focus on health problems that 'disproportionately affect the world's poorest people'. Unlike the proposals of forty years ago, however, which emphasised the need to transform the international division of labour in science and technology, the grand challenge approach puts these structural questions on hold and, instead, leads by setting *goals* – specific and time-bound – and inviting applicants with optimal combinations of interdisciplinary expertise and institutional capacity (wherever they are) to bid in open competition for grants.

The support given to the grand challenge approach to research and development by a new generation of philanthropists, led by the BMGF, has played a significant role in promoting a 'logic model' for philanthropy linking ideas about change, leverage and scale in a particular way. Edwards (2008) has identified this phenomenon as 'philanthrocapitalism'; characterised by a belief in the benefits of transferring business methods to the social sector, 'extending leverage' by linking with the private sector, and rapidly 'going to scale', thus maximising returns on investment. These developments draw on two pre-existing trends; 'venture philanthropy' and social enterprise. Key to the latter is the principle of 'blending' the values and contributions of different sectors, so that the Foundations' traditional role of 'correcting for' the market is transformed to one of '*connecting to*' the market.

These developments raise new Sustainability challenges, which are explored in this paper. We discuss the concepts and contemporary useage of silver bullets, grand challenges and philanthrocapitalism by drawing on a range of examples across the health and agriculture sectors. International biofortification research funded by the BMGF provides a more detailed, illustrative case, showing also how these ideas can become interwoven and mutually-supportive. This analysis shows how an emphasis on blending the perspectives and value systems of different sectors – notably the public and private sectors – tends to reduce the space to debate questions of directionality, trade-offs and alternatives; just as imperatives towards rapid and direct scaling up infer the existence of homogenous populations, framing out patterns of diversity – of needs, practices and institutional frameworks and cultures – and distributional

concerns. Finally, the paper asks if the potential exists for a recently reinvigorated philanthropic sector to play a different role, and turn its power and resources towards learning processes that recognise diversity and use this to reshape programme design.

SILVER BULLETS

The term 'silver bullet' (or magic bullet) refers to a 'magical solution to any vexing problem'¹. Its origins lie in European folklore featuring werewolves, mythical creatures believed to be impervious to all weapons except the magical silver bullet. The notion of a 'magic bullet' in medicine was first popularised by Dr Paul Ehrlich² in connection with the 1908 discovery in his laboratory of the effectiveness of arsphenamine, arguably the first useful drug developed by scientific research, against syphilis. It came to prominence with the advent of antibiotic drugs which seemed to present a genuine 'cure-all': 'the perfect drug to cure a disease with no danger of side effects'³. Today, the term 'silver bullet' tends to be used in a negative sense, in one of two ways. Firstly, it is often used by sceptics to dismiss the (explicit or implicit) claims made for the efficacy of a particular technology as having misunderstood or ignored the complexity of the problem it is supposed to solve. Alternatively, promoters of a particular technical solution may pre-empt such criticisms with the caveat that it is 'no silver bullet' as a way of acknowledging that the proposed technology *alone* will not solve the problem at hand. In each case, used as ammunition in science policy debates, the term 'silver bullet' functions as a shorthand term to either bolster or undercut the claims made for the efficacy and potential impact of technical 'breakthroughs' of various kinds.

The silver bullet concept can be distilled into three characteristics: solutions that are *technical* (usually based on the application of a single, new technology), *generic* (and therefore universally applicable, irrespective of the diversity of local contexts), and *scalable* (amenable to 'scaling up' from local to national and even international levels). One of the most often-cited silver bullets is the vaccine – 'medicine's greatest lifesaver' (Allen 2007) – and one of the best known silver bullets in international development has been the package of vaccines against childhood diseases promoted through the World Health Organization's Expanded Programme on Immunization (EPI) in the 1970s. Incorporating Diphtheria, Tetanus and Pertussis (DTP), BCG, polio and measles vaccines, the programme built on the earlier 'miraculous' success of the Salk polio vaccine in controlling the ravaging polio epidemics of the 1940s and 50s, at least in industrialised countries, and on the worldwide smallpox eradication campaigns from the 1960s until 1979 when the world was declared smallpox-free.

Vaccines appear to exemplify, par excellence, a technical, universally-applicable solution to disease problems, and the EPI approach has been to apply these at scale through national programmes and campaigns replicated across the world, geared to particular targets – percentages of children immunised, diseases eradicated. In practice, context-specific political, institutional, socio-economic and cultural factors have haunted vaccines from the earliest, dramatically influencing the shape and relative success of immunization programmes in different local and national settings (e.g. Greenough 1995; Streefland et al 1999; Leach and

¹ <http://www.medterms.com/script/main/art.asp?articlekey=23525> (31st August 2008).

² Celebrated in the 1940's motion picture 'Dr. Ehrlich's Magic Bullet'
<http://www.imdb.com/title/tt0032413/> (21st January 2009)

³ <http://www.medterms.com/script/main/art.asp?articlekey=23525> (31st August 2008)

Fairhead 2007). Yet these elements of diversity are frequently downplayed in wider policy and public discourse about vaccination solutions.

Another widely-lauded silver bullet has been the 'miracle seed' technology at the centre of the 'Green Revolution' of the 1960s and 1970s, through which semi-dwarf, high yielding varieties of wheat and rice were disseminated throughout South and Southeast Asia and Latin America⁴. Though in practice it involved a complex package of social, technical and institutional changes (Pearse 1980; Griffin 1979), the popularised interpretation of the Green Revolution was a radical socio-economic transformation embedded 'in the seed', and therefore inherently scale-neutral, which succeeded in averting widespread famine and political upheaval during the cold war era (Anderson et al 1991; Perkins 1997; Cullather 2004). One adverse effect of acquiring the 'silver bullet' status is exemplified by the insecticide DDT. Hailed in the late 1940s as the key to eliminating the scourge of malaria, and used by the WHO in a massive global eradication campaign through the 1950s and 1960s, it was banned in the US in 1972 as a human carcinogen which had had a disastrous impact on the natural environment. Its profligate use also proved self-defeating and promoted widespread resistance among malaria-carrying mosquitoes.⁵

The term 'biofortification' refers to technologies for enhancing, through biological processes such as plant breeding and transgenic techniques, the micronutrient content of staple crops. As such, biofortified crop varieties have been presented as the new miracle seeds, able to address the problem of micronutrient malnutrition, even in remote rural areas that are hard to reach with pharmaceutical interventions such as supplementation or industrial food fortification (HarvestPlus 2004). Promoters have thus framed biofortification as a nutritional silver bullet; technical, generic and scalable, like water fluoridation: 'The [required nutrients] will get into the food system much like we put fluoride in the water system. It will be invisible, but it will be there to increase [nutrient] intakes.'⁶

Of course biofortification is not, in and of itself, a magic bullet solution. As a technology it could be implemented in a number of ways, within different social and institutional settings. Early biofortification initiatives, in fact, were characterised by their localised, context-responsive nature. However, its more recent *framing* as a silver bullet has transformed current biofortification research into a 'global' effort calling for a centralised programme structure, both as a CGIAR 'Challenge Programme'⁷ and as one of the BMGF's 'Grand Challenges in Global Health'⁸ (Brooks 2008). What these 'grand challenges' have in common is that they build on the silver bullet concept and extend it in new ways, which are explored in the next section.

⁴ Now, in the 2000s, there is a major initiative by the Rockefeller Foundation and BMGF to start a Green Revolution in Africa, <http://www.agra-alliance.org/> (10th January 2009)

⁵ Rachel Carson's (1962) book, 'Silent Spring' catalogued the environmental impacts of the indiscriminate spraying of DDT in the US and questioned the logic of releasing large amounts of chemicals into the environment without fully understanding their effects on ecology or human health... DDT was subsequently banned for agricultural use worldwide under the Stockholm Convention, but its limited use in disease vector control continues to this day in certain parts of the world and remains controversial', <http://en.wikipedia.org/wiki/DDT> (21st January 2009)

⁶ <http://www.worldfoodprize.org/assets/symposium/2005/transcripts/Bouis.pdf> (9th January 2009)

⁷ <http://www.harvestplus.org/> (10th January 2008)

⁸ <http://www.grandchallenges.org/Pages/default.aspx> (10th January 2008)

GRAND CHALLENGES

The idea of the 'grand challenge' builds on the idea of the silver bullet in four related ways. Firstly, grand challenges are formulated around 'policy terms set as goals'⁹. Specifically, they are formulated in the context of a goal-driven international development agenda as set out in the Millennium Development Goals (MDGs) framework¹⁰. Within this framework, 'development' is a matter of hitting targets, for poverty reduction, universal education and maternal and child health, for example. Pharmaceutical micronutrient interventions, and more recently biofortification initiatives, with their claims to universality and scalability, are a good fit with this concept of development. Meanwhile, debates about local participation and the *process* through which change happens are overridden by an urgency to maximise the pace and scale of impact.

Secondly, in emphasising the scalability and rapid pace of development of technologies that are the subject of these grand challenges, questions about the *directionality* of change are often overlooked. Thus the race to meet defined goals through technological solutions trumps consideration of alternative possible trajectories - perhaps slower, or options for integrating technologies with social processes in different ways. Thus for example child health can be addressed through specific disease-focused vaccine interventions, but also through initiatives that build preventative health *systems* and enable parents to access them. Even if such alternative pathways hit the same target (improved child health) along the way, they carry very different implications for ongoing development pathways, and who gains, loses or is empowered or disempowered through them. The grand challenges approach ignores such implications, obscuring crucial questions about 'which way', 'why', 'for whom' and 'who says' with overriding prior concerns with 'how much', 'how fast' and 'when'.

Third, such technologies are, in most cases, not yet available. In the case of biofortification research, implementable technologies are typically still several years' away (Brooks 2008). Furthermore, these technologies are the projected outputs of ongoing interdisciplinary research, about which much is still uncertain. Nevertheless, the idea that such technologies are almost ready, and once ready will be amenable to rapid dissemination and 'scaling up', seems to pervade these ambitious programmes. While the notion of the grand challenge accommodates increased *technical* complexity, it appears to retain the simplistic approach to social and institutional aspects of technology deployment associated with the classic silver bullet.

Fourth, the increased technical complexity involved in these grand challenges has generated new types of organisational configuration to bridge the relevant disciplines, sectors and countries. Such arrangements, however, involve a departure from the vision, articulated in the original Sussex Manifesto, of transforming the 'international division of labour in science and technology'. Instead, the aim is to create global networks in which member institutions are positioned according to their 'comparative advantage' in upstream basic research or downstream adaptive research and deployment. In this context, public research institutions in developing countries, weakened by decades of underfunding, find themselves in the latter category. While in principle establishing a 'level playing field' through open competition, in practice, emerging global research networks are reproducing rather than transforming pre-existing global power-knowledge relations (Brooks 2008).

⁹ http://en.wikipedia.org/wiki/Grand_Challenge (31st August 2008)

¹⁰ <http://www.un.org/millenniumgoals/> (10th January 2008)

The 'Grand Challenges in Global Health' (GCGH) initiative was launched by the BMGF and National Institutes of Health in 2003 (and again in 2008) to meet 14 global challenges identified by a 'scientific board' to address 'seven long term goals to improve health in the developing world'. These included new and improved vaccines, strategies for controlling disease vectors, drug therapies, delivery systems and user-friendly diagnostic tools and biofortified crops (Leach and Scoones 2006:21). The last of these was intended to 'create a full range of optimal, bioavailable¹¹ nutrients in a single staple plant species'¹². In promoting the GCGH, the Foundation acknowledged the origins and essence of the 'grand challenge' idea, that bringing together optimal combinations of human minds and scientific institutions around a specific problem or goal is the surest route to finding solutions to the world's biggest problems:

The initiative is modelled after the grand challenges formulated more than 100 years ago by mathematician David Hilbert. His list of important unsolved problems has encouraged innovation in mathematics research ever since. Similarly, the Grand Challenges in Global Health initiative aims to engage creative minds from across scientific disciplines - including those who have not traditionally taken part in global health research - to work on 14 major challenges. The challenges vary, but they share one essential element: Their solutions could lead to breakthrough advances in global health.¹³

Hilbert's grand challenge concept re-emerged in the 1980s in a different form, in the world of computer research. It was employed by the United States government to mobilise national science institutions to keep pace with developments in Japanese computer research; and subsequently spread to other 'high-performance' technologies with industrial and military applications¹⁴. In the 2000s, the concept has again been remoulded, this time from a mechanism for improving national competitiveness to a tool for mobilising an international community of scientists towards predefined global goals with socio-political as well as technical dimensions. The GCGH initiative of the BMGF was a pioneer in this regard, setting a trend that has since been followed by other donors.¹⁵ In this incarnation, the grand challenge model extends the idea of the silver bullet, in particular the notion of the generic, technical solution with in-built 'scalability', in a way that speaks, not only to a prevailing goal-driven development agenda, but also to a new generation of philanthropists seeking to apply business methods to 'strategic' giving. The next section explores the crucial role of these private philanthropic foundations (predominantly in the US) in these developments.

¹¹ Readily absorbed by the human body

¹² <http://www.grandchallenges.org/ImproveNutrition/Challenges/NutrientRichPlants/Pages/Rice.aspx> (10th January 2008)

¹³ <http://www.gcgh.org/about/Pages/Overview.aspx> (3rd September 2008)

¹⁴ http://en.wikipedia.org/wiki/Grand_Challenge (31st August 2008)

¹⁵ For example, the UK Department for International Development (DfID) has recently launched its 'Future Challenges' programme: <http://www.dfid.gov.uk/Global-Issues/Future-challenges/> (4th August 2009)

THE NEW PHILANTHROPY

The term philanthropy refers to a 'desire to help others', usually through donations of money – sometimes in combination with time and effort - to 'good causes'¹⁶. As such it has much in common with another concept, 'charity'. However, starting in the early 19th century, influential philanthropists have endeavoured to distance themselves from conventional notions of charity – as relieving the symptoms of poverty - and chart a different course. Philanthropy has since developed as a more focused, strategic activity. This is well illustrated by the philanthropic sector in the United States, on which this section focuses.

The sector developed after two individuals, Andrew Carnegie (1889) and John D. Rockefeller (1909) established philanthropic foundations in 1911 and 1913, which operated according to the principles of 'scientific philanthropy'. They sought to tackle what they saw as the root *causes* of social problems, rather than merely to ameliorate their symptoms (which they believed discouraged self-help). Causes were defined in a particular way, however, in terms of removing the barriers to self-improvement, particularly in the spheres of education and, later, public health. Crucially, the identification of causes stopped short of challenging the prevailing social order within which the funds available for philanthropic activity had been accumulated:

'Objections to the foundations upon which society is based are not in order, because the condition of the race is better with these than it has been with any others which have been tried... Our duty is with what is practicable now; with the next step possible in our day and generation. It is criminal to waste our energies in endeavouring to uproot, when all we can profitably or possibly accomplish is to bend the universal tree of humanity a little in the direction most favourable to the production of good fruit under existing circumstances' (Carnegie 1889).

As Frumkin argues; 'philanthropy allows private actors to act in public ways' (2006:1). These contradictory elements represent an essential tension that is inherent in private philanthropy. For this reason, the role of philanthropic foundations within society has always been a contested one, since they combine the possibility of fostering creativity – unencumbered by bureaucracy and 'due process' – with a fundamental conservatism. Within liberal societies, their role has traditionally been seen in terms of 'correcting for the market'¹⁷, and, in the process, creating possibilities for social change. Furthermore, foundations in the US are sometimes called 'America's passing gear', in reference to their ability, by virtue of their independence, to accelerate processes of change. This principle was put into action on the international stage following the establishment, by the Rockefeller and Ford Foundations, of international agricultural centres as vehicles for accelerating a 'Green Revolution' in agriculture in Asia in the 1960s and 1970s.

Judith Rodin, the current president of the Rockefeller Foundation, has identified three phases of modern American philanthropy. 'Philanthropy 1.0' refers to the scientific philanthropy of Carnegie and Rockefeller. 'Philanthropy 2.0' refers to the shift, after the second world war, to building *institutions*, including NGOs and civil society organisations as well as the network of international agricultural centres that were later incorporated into the CGIAR. At the 2007 Global Philanthropy Forum (GPF) hosted by Google, Rodin predicted a new phase; 'Philanthropy 3.0' in response to the effects of globalisation. The emerging 'new philanthropy', she argued, is

¹⁶ http://www.askoxford.com/concise_oed/philanthropy?view=uk (4th September 2008)

¹⁷ http://www.futureofphilanthropy.org/files/usPhil_1SeedsofChange.pdf (30th August 2008)

'interdisciplinary', 'problem-focused' and concerned with 'seeking innovation, influence and impact' (Rodin, in Brilliant et al 2007:12) in tackling global challenges:

Our new work focuses on specifically defined, time-limited initiatives that address big problems where we feel our involvement can bring a distinct and comparative advantage ...we are tackling problems that require us to be more nimble – to jump in quickly – when the problems are urgent and time-sensitive, as well as continuing to invest in those that require longer-term commitment. We are seeking novel and newer forms of partnerships with a variety of players. And, importantly, we are emphasising work that enhances building capacity and resilience and produces systemic change' (Rodin, in Brilliant et al 2007:9).

The BMGF, now the largest private foundation in the US, is considered the leader of 'Philanthropy 3.0'. In 2005 it had an endowment of \$28.8 billion, a figure that was doubled overnight in 2006, when Warren Buffet announced that he would donate the great majority of his fortune to the Foundation (Okie 2006:1086). Jeffery Sachs of the Millennium Project has since declared that these 'wealthy philanthropists' have the potential to 'eclipse the G8' in their contribution to solving global development problems.¹⁸

Frumpton (2006) notes that all philanthropists follow their own 'logic model'; linking theories of change (how change happens), leverage (of resources and other inputs) and scale (of outputs and impacts). In the 2000s, commentators from within and outside the American philanthropic sector are detecting a major shift in the logic model of a generation of new philanthropists who made their fortunes in the Silicon Valley boom of the 1990s. This was very much in evidence at the 2007 GPF conference. In addition to the 'Grand Challenge' mindset – problem-focused, interdisciplinary, time-limited, 'high impact' – a key theme was 'extending leverage' through fostering collaboration – and convergence – between the public and private sectors. Delegates were urged to broaden their definition of philanthropy to allow the use of 'all tools, all the methods, of financing social change' (Wales, in Brilliant et al 2007:3-4).

This trend has been described as a shift from 'correcting for' to '*connecting to* the market'.¹⁹ While traditional notions of the role of philanthropy as 'correcting for' the market allowed space for alternative theories of change, the 'core theme of the [2007 Global Philanthropy] Forum' was '*blending* private- and social- sector approaches to tackle social problems', but with an eye on the '*private sector's* focus on sustainability and scalability' (Hoffman, in Paroo et al 2007:18-19, authors' emphasis). It is this implicit squeezing out of alternative change models and their associated value systems and organisational forms – implicitly, alternative forms of *directionality* - that concerns commentators such as Michael Edwards (2008) in a recent publication on 'philanthrocapitalism'. Edwards' definition of 'philanthrocapitalism' combines recognition of the power and scale of the new philanthropists – in terms of the sheer volume of funds at their disposal – with assumptions, such as those discussed above, that the import of tools and methods from business into the social sector will be both beneficial and harmonious. Yet more problematic is the implicit claim that the adoption of such methods can achieve not only the efficient delivery of goods and services, but broader (desirable) social transformation (Edwards 2008:21-32).

¹⁸ Jeffrey Sachs quoted at: www.rockfound.org/about_us/news/2007/0408philanthropy.shtml (27th July 2007)

¹⁹ http://www.futureofphilanthropy.org/files/usPhil_1SeedsOfChange.pdf (30th August 2008)

Ideas about 'philanthrocapitalism' draw on older concepts such as social enterprise and venture philanthropy. In particular, the notion of 'blended value', as well as the belief that *individual* entrepreneurs can 'unlock systems' and achieve systemic change (Wales, in Brilliant et al 2007:3) originates in ideas about social enterprise and entrepreneurship, ideas which have been central to William Easterly's challenge to the 'Big Plans' offered by Jeffrey Sachs and others (Easterly 2006). However:

Much of the literature on social enterprise seems to assume that the social will take care of itself if the enterprise is successful... 'Social' usually signifies a target group, not a method of collective action... There is an unexplored tension at the heart of social enterprise between lionising charismatic individuals ... and developing broad based capacities for social and political engagement (Edwards 2008:19).

The term 'venture philanthropy' was 'first used by John D. Rockefeller III in 1969' to refer to 'the adventurous funding of unpopular causes' (Edwards 2008:22). However, the idea began circulating in the philanthropic world following the publication of an article in the *Harvard Business Review* on 'what the foundations can learn from venture capital' (Letts et al 1997). Frumkin has identified two broad developments over the last decade that have contributed to a new focus on venture (or engaged) philanthropy. The first was the rise of Silicon Valley, which 'gave the old practice of venture capital investing fresh exposure and currency'. The second was its spill-over into the political arena. 'Starting with the presidential campaign of 1992, the Democrats²⁰ shifted their language of their party's politics' from 'higher *taxes* and more *spending*' to 'the necessity of greater *contributions* to make possible higher levels of *social investments*' (Frumkin 2006:281-282). These two developments converged in the philanthropic sector:

The rhetoric of the New Democrats and the practices of Silicon Valley were ultimately wed in the field of philanthropy, and the result was what is now generally termed 'venture philanthropy'. It was a marriage made in heaven, in that sophisticated donors have long sought to turn their gifts and grants into something more concrete and scientific. Rather than simply being a purveyor of charitable funds ... venture philanthropy promised to turn donors into hard-nosed social investors by bringing the discipline of the investment world to a field that had for over half a century relied on good faith and trust (Frumkin 2006:282).

Venture philanthropy was built on 'three intellectual pillars': 'bringing non-profits to scale' by committing large blocks of funding over long periods of time; emphasising evaluation and performance management; and fostering 'investor-investee' relations on the basis of 'consultative engagement'. This assumed, of course, that non-profit organisations wanted this level of 'help', that venture philanthropists possessed the requisite skills that were 'missing', that non-profit organisations would run better once exposed to these new models and tools, and that such an intensified level of engagement from the 'investor' was both ethical and appropriate. However, practice has not always followed the rhetoric, and in reality 'investment' tends to function in much the same way as grant disbursement, while 'consultative engagement' often bears an uncanny resemblance to old-style technical assistance (Frumkin 2006:282).

Just as venture philanthropy may not be as radical in practice as in rhetoric, McConnell questions the new relationship between new philanthropists and 'the market'. 'Newer philanthropists, from

²⁰ Parallels can be drawn here with Britain's 'New Labour'

Bill Gates to Chuck Feeney ... acknowledge the influence of Carnegie and his writings, notably the Gospel of Wealth, as a role model in informing their decisions not simply to give away their wealth, but to become focused philanthropists, applying to the business of giving, the same vision and creativity they gave to making money' (McConnell 2008:16). Drawing attention to the tension that has always been central to philanthropy, he asks:

What does 'independent of the market' mean? Presumably that we are not beholden to narrow business interests. Yet what evidence have we that this is the case? There are brave foundations, but I know of few that have directly challenged the corporate interests from which their wealth derives, even when it is clearly demonstrable that those businesses are exploiting the third world or damaging the environment. And why should being independent of the state give us legitimacy? Governments, in the EU at least, are all democratically elected. We're not. Yet we are trusted. Somehow the Fords, the Gateses, the Van Leers, and the Carnegie foundations of this world are trusted. We are seen if not as neutral, then certainly as a safe pair of hands. So we must be getting something right. I suspect it has more to do with being established players, having a reliable track record and reputation for not rocking boats too much, plus the fact that we have money to put on the table, that gives us this currency, rather than our supposed creativity' (McConnell 2008:17).

McConnell's explanation attributes the trust placed in private philanthropy – new and old – to its inherently conservative character, as articulated by Carnegie in 1889, rather than its more radical possibilities, and seems to imply that contradictory assumptions embedded in new terms like 'blended value' have a longer history and may have even defined private philanthropy from the start. He also goes one step further, alluding to more fundamental questions about the legitimacy of such organisations to undertake programmes of social change.

Nevertheless, contextual factors emerge at different times which are more or less likely to keep these largely unaccountable institutions in check. At present, this context is shaped by a global political economy of knowledge and resources which is itself a salutary reminder that the goal advanced by the Sussex Manifesto forty years ago, to transform the international division of labour in science and technology in favour of developing countries, was not achieved. This, in turn, has created the conditions of possibility for a reinvigorated philanthropic sector – partnered with research communities that are themselves concentrated in the Global North - to have such a disproportionate influence in shaping contemporary development pathways; and the dearth of formal channels through which their dominance might be challenged (e.g. Global Health Watch 2008).

In the light of these reflections, will the newer rhetoric of 'Philanthropy 3.0' and 'Philanthrocapitalism' lead to widespread changes in practice within the sector? While it is too early to answer this question, a more immediate concern may be the extent to which the logic models underlying the new philanthropy, by advancing particular understandings of social change, leverage and scale, is focusing disproportionate attention (and resources) towards certain types of development problems and solutions and not others. This is explored and illustrated in more detail in relation to the case of biofortification, in the next section.

SUSTAINABILITY: DIRECTIONALITY, DISTRIBUTION AND DIVERSITY

Grand challenge programmes rely on the dominant view of research and development which distinguishes 'upstream' activities such as basic research from 'downstream' adaptation, dissemination and adoption, following a classic linear innovation model (cf. Rogers 2003). Within this model, it is the job of those situated further downstream to facilitate the smooth transfer of the outputs of upstream research (the value or appropriateness of which they need not question) through a technology 'pipeline' until it reaches the 'end user'. Issues for discussion are the efficiency and pace with which the transfer can and should take place, and at what scale. Questions relating to *directionality* - who decided that this (and not other) research should be prioritised for substantial investment, and why - are less open to debate, dealt with by select groupings such as a Science Council (for the CGIAR) or Scientific Board (for the BMGF). This 'technology push' approach allows those making 'strategic' decisions about the direction of innovation to avoid public accountability for their choices, while relegating difficult decisions about the distribution of benefits and risks of these technologies to a more 'tactical' level.

The biofortification grand challenge initiatives discussed in this paper and the agendas of the 'new philanthropists' that currently support them are consistent both with an MDG-driven 'big push' in science for development and with the principles of social entrepreneurship, promoted by Easterly (2006) in his critique of such 'big plans'. In this way, the hubris of the former is tempered by what seems a more modest agenda: they are only, after all, sticking to 'what works' (if poor people can only afford to eat staple crops, then let's fill those crops with the nutrients they need). Nevertheless, the same question still applies – works for whom? This brings us again to distributional questions which, had they been asked at the outset, might have influenced decisions, not only about *whetherto* invest in biofortification research, but *how* it would proceed and *who* should decide. Moreover, a focus on the rapid scaling up of technologies, as they become available, frames out issues of diversity as well as (in)equitable distribution.

Emphasis is thus on the supply side of the innovation system; and the technical and institutional sophistication necessary to deliver a series of products through the pipeline. On the demand side, in the absence of market or state mechanisms through which members of different publics might articulate demands for improved nutrition and health, these programmes *construct* alternative, proxy formulations. The question is to what extent such procedures reflect actual needs, in all their diversity. In practice, these proxies are generated by actors located upstream, through the discursive practice of constructing beneficiary populations, for example as homogenous, passive 'populations at risk' from malnutrition-related diseases²¹ or as aggregates of individuals who might be induced to make more 'rational' choices about which varieties to plant or consume (Stein et al 2005).

In this way, needs (such as health and nutrition) are transformed into demands for *products* (such as vaccines and biofortified crops) in the pipeline. Such constructions affirm for upstream actors the soundness of decisions already made, while providing a language of reassurance for donors attracted by the high absorption capacity of these large research consortia. Meanwhile, they divert attention away from the need to understand the diversity of ecological, political, socio-economic and cultural conditions with which biofortified varieties will interact and which will, ultimately, determine their relative success or failure (Brooks 2008).

²¹ <http://www.worldfoodprize.org/assets/symposium/2005/transcripts/Bouis.pdf> (9th January 2009)

Thus the case of biofortification research illustrates how the three concepts and trends discussed in this paper – an emphasis on silver bullets, on grand challenges, and on the logic models of philanthrocapitalism – interlock in mutually supportive ways. Together, this powerful complex – now so dominant in the field of innovation, technology and development – appears to be framing out crucial concerns with the directions that innovation might take, the diversity of contexts with which it engages, and its distributional implications. This process is intensified by the concentration of influence in the private philanthropic sector (discussed in the previous section of this paper) – a sector increasingly deferential to the largest of the ‘philanthro-capitalists’, the BMGF. Never a sector known for its accountability, the contribution of the philanthropic sector has, nevertheless, been traditionally acknowledged as a complementary and important one. Today, the balance of forces is very different, resulting in the streamlining of pathways that this paper has outlined.

Is there an alternative? The case of biofortification research shows that it might have been otherwise - highlighting how an effort that is presented today under an overarching ‘global challenge’ frame started out very differently. It was through (ultimately successful) attempts to generate wider support and funding that biofortification became a victim of its own success, transformed into a centralised, globalised grand challenge detached from local realities. Yet this process is neither irreversible nor complete. New philanthropists such as the BMGF display an openness to new and untested *technical* ideas, as has been demonstrated by their decision to fund biofortification research at a time when others were still too wary to do so. However, as Edwards points out, one of the weaknesses of social enterprise inspired approaches is their underlying assumption that ‘the social will take care of itself if the enterprise is successful’ (Edwards 2008:19). The question now is whether these new Foundations are able to display the same openness to issues of *social* diversity as to technical complexity, even if it means rethinking elements of the grand challenge model.

REFERENCES

- Allen, A. (2007) *Vaccine: The Controversial Story of Medicine's Greatest Lifesaver*, London: WW Norton
- Anderson, R. S., Levy, E. and Morrison, B. M. (1991) *Rice Science and Development Politics: Research Strategies and IRRI's Technologies Confront Asian Diversity (1950-1980)*, Oxford: Clarendon Press
- Brilliant, L., Wales, J. and Rodin, J. (2007) 'The Changing Face of Philanthropy', *Global Philanthropy Forum, 6th Annual Conference, Financing Social Change: Leveraging markets and entrepreneurship*. Mountain View, CA
- Brooks, S. (2008) *Global Science, Public Goods? Tracing International Science Policy Processes in Rice Biofortification*, PhD thesis, Brighton: University of Sussex
- Carnegie, A. (1889) 'Gospel of Wealth', *North American Review*, CCCXCI
- Carson, R. L. (1962) *Silent Spring*, Boston MA: Houghton Mifflin
- Cullather, N. (2004) 'Miracles of Modernisation: The Green Revolution and the Apotheosis of Technology', *Diplomatic History*, 28, 227-254
- Easterly, W. (2006) *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and so Little Good*, Oxford, Oxford University Press
- Edwards, M. (2008) *Just Another Emperor? The Myths and Realities of Philanthrocapitalism*, Demos and The Young Foundation
- Frumkin, P. (2006) *Strategic Giving: The Art and Science of Philanthropy*, Chicago and London: University of Chicago Press
- Global Health Watch (2008) *Global Health Watch 2*, London: Zed Press
- Greenough, P. (1995) 'Global Immunisation and Culture: Compliance and Resistance in Large-Scale Public Health Campaigns', *Social Science and Medicine*, 41(5): 605-607
- Griffin, K. (1979) *The Political Economy of Agrarian Change: An Essay on the Green Revolution*, New York, NY: Macmillan Press
- HarvestPlus (2004) *Breeding Crops for Better Nutrition: Harnessing Agricultural Technology to Improve Micronutrient Deficiencies*, Washington DC: International Food Policy Research Institute
- Leach, M. and Scoones, I. (2006) *The Slow Race: Making technology Work for the Poor*, London: Demos
- Leach, M. and Fairhead, J. (2007) *Vaccine Anxieties: Global Science, Child Health and Society*, London: Earthscan

- Letts, C. W., Ryan, W. and Grossman, A. (1997) 'Virtuous Capital: What Foundations Can Learn from the Venture Capitalists', *Harvard Business Review*, 75, 33-44
- McConnell, C. (2008) 'Foundations on Trial: Guilty of Shunning Innovation? *Effect*, 2, 16-18
- Okie, S. (2006) 'Global Health: The Gates-Buffet Effect', *New England Medical Journal*, 355, 1084-1088
- Paroo, I., Biondi-Morra, B., Benioff, M., Novogratz, J. and Hoffman, K. (2007) 'Thinking Differently: Blending the Private and Social Sectors', *Global Philanthropy Forum, 6th Annual Conference. Financing Social Change: Leveraging markets and entrepreneurship*, Mountain View, CA
- Pearse, A. (1980) *Seeds of Plenty, Seeds of Want: Social and Economic Implications of the Green Revolution*, Oxford: Clarendon Press
- Perkins, J. H. (1997) *Geopolitics and the Green Revolution: Wheat, Genes and the Cold War*, Oxford: Oxford University Press
- Rockefeller, J. D. (1909) *Random Reminiscences of Men and Events*, New York NY: Doubleday
- Rogers, E. M. (2003) *Diffusion of Innovations*, New York, Free Press
- Stein, A. J., Meenakshi, J. V., Qaim, M., Nestel, P., Sachdev, H. P. S. and Bhutta, Z. A. (2005) *Analysing the Health Benefits of Biofortified Staple Crops by Means for the Disability-Adjusted Life Years Approach A Handbook Focusing on Iron, Zinc and Vitamin A*, Washington DC: International Centre for Tropical Agriculture and International Food Policy Research Institute
- Streefland, P., Chowdhury, A. M. R. and Ramos-Jimenez, P. (1999) 'Patterns of Vaccination Acceptance', *Social Science and Medicine*, 49: 1705-16